


City of Alexandria, Virginia

22
11-9-10

MEMORANDUM

DATE: NOVEMBER 3, 2010

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: JAMES K. HARTMANN, CITY MANAGER 

SUBJECT: STAFF REPORT ON THE CITY'S 2010/11 WINTER WEATHER PREPAREDNESS

ISSUE: Staff report on winter weather emergency policies and procedures.

RECOMMENDATIONS: That City Council receive this report.

DISCUSSION: In February, 2010, immediately following three historically significant snowfall events, the City Manager directed staff to review and assess the City's emergency response system for winter weather related emergencies. The goal of this review was to better coordinate the City's response to winter weather emergencies, create a response system scalable to conditions, and as appropriate, to develop an emergency response methodology applicable to other types of weather related emergencies. Focus was placed on five key areas critical to effective response: Logistics & Planning, Operations, Communications, Finance/Administration and Legal Authority.

Beginning in March, 2010 and continuing through May, T&ES staff led a review that involved 13 departments of City government as well as staff from the Alexandria City Public Schools (ACPS). The resulting "after-action" report identified 61 specific action items related to a City policy, process or resource where improvement was recommended.

On June 22, City Council received the City Manager's after-action review of the 2009-10 snow emergencies. Also provided at the meeting was a proposed Snow Emergency Implementation Plan for Winter Preparedness, developed to address deficiencies identified in the after-action review. Council requested that staff docket for Council consideration, those changes to City Code necessary to implement the revised plan.

A significant implementation item Council asked staff to address prior to the 2010/2011 winter season included development of a Winter Weather Emergency System with three levels that: (a) defines threat/emergency conditions for the public and (b) guides the appropriate City response. The system is shown on Attachment 1. Although this system features indicators specific to the City of Alexandria (i.e. Level 1 or Level 2), these indicators are primarily for internal (staff) guidance and development of incident objectives. The public messaging component of the system is generic, and the operational and communications elements of this plan are consistent with the Unified Regional Snow Emergency Plan for the Metropolitan Washington Area as developed by the Council of Governments.

An updated work plan is provided as Attachment 2. The primary implementation area items include:

Primary Implementation Items Group #1 (Logistics & Planning)

- For future weather incident management, approximately 150 staff members from multiple departments have been trained and/or newly certified in National Incident Management System- Incident Command System through the City's Office of Emergency Management.
- A Winter Weather Emergency System with three Levels (Level 1, Level 2 and Level 3) has been developed and is shown on Attachment 1.
- Readiness reviews with departments and partners such as ACPS were held in September. Additional training exercises will occur in November.
- Improved coordination with ACPS includes written protocol for internal communication regarding weather emergencies.

Primary Implementation Items Group #2 (Operations)

- A T&ES Operations Center has been established at 2900 Business Center Drive for a coordinated response. The operations center will provide incident management of all future emergencies and coordinate with the City's Emergency Operations Center (EOC) when the EOC is activated.
- Updated mapping accounting for hills and adjusted priorities have been prepared for Streets, Pedestrian Areas, Facilities and Critical Infrastructure. The map update will be dynamic and may occur during events. New maps showing function and level have also been prepared for use by crews in the field.
- Alexandria's Geographic Analysis and Research Interface (GARI) has been deployed as a common operating picture with basic integration between specific applications such as WebEOC and Cityworks. Staff training is ongoing.

Primary Implementation Item Group #3 (Communication)

- Communication of the Winter Weather Emergency System will take place in November, with expected expanded public information to be provided through "Snow Reports."

Primary Implementation Item Group #4 (Finance/Administration)

- Standardized forms and procedures for efficient/effective tracking of events during emergencies have been provided.

Primary Implementation Item Group #5 (Legal Authority)

- Changes to City ordinances related to sidewalk snow removal, snow emergency routes, taxicab surcharges and parking restrictions are proposed.

The 33 highest priority items in the work plan are now either complete or in progress with an expected completion date prior to the 2010/2011 winter season. Due to resource constraints, some improvements of lower priority will require consideration in a future City budget.

FISCAL IMPACT: There may be operational fiscal impacts related to the recommendation of responsibilities or improvements in 2010/2011. Staff will assess after the winter and provide this information during the budget discussions.

ATTACHMENTS:

Attachment 1: Winter Weather Emergency System

Attachment 2: Snow Emergency Review: Winter 2010/11 Implementation Plan (updated)

Attachment 3: June 22, 2010 docket item

STAFF:

Mark Jinks, Deputy City Manager

Tom Gates, Assistant City Manager

Tony Castrilli, Director, Office of Communications

Debra Collins, Assistant City Manager

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Edward Mandley, Director, General Services

Cheryl D. Orr, Director, Human Resources

James Spengler, Director, RPCA

Adam K. Thiel, Fire Chief

Laura B. Triggs, Director, Finance

Tom Trowbridge, Director, Information Technology Services

Yon Lambert, Deputy Director, Operations, T&ES

Steve Chozick, Division Chief, GIS (Planning & Zoning)

Winter Weather Emergency System

Nov-10



Level	Incident/ Forecast	Message	Clearing & Removal Objectives	Parking	Sidewalks	Taxi Surcharge	Transit
1	Up to 8 inches of snow or other winter weather (minor icing, etc...) that can be managed using existing City resources.	Roads may be dangerous. Drivers are advised to exercise caution.	City snow removal crews will work first to make "snow-covered" roads "passable" and ensure schools are accessible. Roadways may not be completely clear for 3 days. (See definitions.)	Snow emergency declared and enforced on revised emergency route list. Vehicles may be towed and relocated from other streets as needed.	Clearing snow from sidewalks within 24 hours is the responsibility of owners or occupants of the adjacent property.	Pending conditions, taxicab surcharge (\$5) may be imposed at the discretion of the director of T&ES.	King Street Trolley, DASH and WMATA may operate using reduced service levels.
2	More than 8 inches of snow, blizzard conditions, ice accumulation or other weather conditions that require extreme caution and attention to safety.	Roadways are hazardous. Drivers are advised to limit their travel to emergency trips. Motorists and pedestrians should use extreme caution.	City snow removal crews will work first to make snow covered roads passable for emergency and public utility vehicles, with the goal of bringing roadway conditions to Level 1. Crews will then return to make roads passable, plowing them clear within five (5) days following the storm; however, weather conditions may delay available resources and response times. Roadway conditions may require school delays or closures at discretion of schools.	Snow emergency declared and enforced on revised emergency route list. Vehicles may be towed and relocated from other streets as needed. City garages or lots may be opened for residential parking.	Clearing snow from sidewalks within 48 hours is the responsibility of owners or occupants of the adjacent property.	Taxicab surcharge (\$5) will be imposed. Surcharge to remain in effect until storm drops to Level 1 or the director of T&ES determines that it is no longer warranted.	All transit providers -- including WMATA -- may operate using reduced service levels (including alternate routes) until conditions improve to Level 1.
3	Natural disaster weather conditions that require emergency measures and will outstrip City resources to respond.	All roadways are closed to non-emergency personnel. No one should be driving in these conditions. Residents are advised to stay off the roads and sidewalks so that snow removal crews may continue working to clear City roadways.	City snow removal crews will work first to make roads passable for emergency and public utility vehicles, with the goal of bringing roadway conditions to Level 2. Snow removal will continue around the clock. Roadway conditions will require school closures at discretion of schools.	Snow emergency declared and enforced on revised emergency route list. Vehicles may be towed/relocated from other streets as needed. City garages or lots likely opened for residential parking.	Clearing snow from sidewalks within 72 hours is the responsibility of owners or occupants of the adjacent property.	Taxicab surcharge (\$5) will be imposed. Surcharge to remain in effect until storm drops to Level 1 or the director of T&ES determines that it is no longer warranted.	All transit providers -- including WMATA -- expected to operate using reduced service levels (including alternate routes) for extended periods until conditions improve.

The immediate goal of plowing is to make streets first "passable" followed by bare pavement and then curb to curb clearing as time and resources permit.

Definitions:

Snow Covered: Street is covered with snow

Passable: Street is able to be driven and may have been plowed but may have only been treated with salt. Requires additional plowing.

Plowed: Snow has been pushed to the sides of the street, leaving one or two inches of snow or cleared down to blacktop with running water showing. Streets are also treated with salt.

Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #1: Logistics & Planning

Item	Category	Recommendation	Deadline	Priority	Funding
1	Policy	Formalize structure for use of NIMS-ICS (National Incident Management System- Incident Command System) in the management of all emergencies in the City according with the NIMS doctrine.	COMPLETE	High	No
2	Process	Develop a Snow Emergency Classification System with three Levels (Level 1, Level 2 and Level 3) that (a) define threat/emergency conditions for the public and (b) guides the appropriate City response.	COMPLETE	High	No
3	Process	Winter storms classified as Level 1 (for instance when less than 8" snow is forecast or in other threat situations when conditions warrant) will be managed by the Snow Operations Center utilizing an Incident Command Structure (ICS). The Director of T&ES, or his authorized designee, will be responsible for developing the structure in accordance with the NIMS doctrine unless other threats dictated the opening of the EOC.	COMPLETE	High	No
4	Process	Winter storms classified as Level 2 or 3 (for instance when more than 8" snow is forecast or in other significant threat situations) will be managed by the Emergency Operations Center in accordance with the City's Emergency Operations plan utilizing the Incident Command Structure (ICS). The City Manager, as the Director of Emergency Management for the City, will be responsible for developing the structure in accordance with the NIMS doctrine.	COMPLETE	High	No
5	Process	Conduct annual readiness review no later than October 1 with designated departmental invitees.	COMPLETE	High	No

Shaded rows indicate high priority items.

Item	Category	Recommendation	Deadline	Priority	Funding
6	Process	Develop written plan for snow and ice for ACPS that is consistent and coordinated with City plans.	COMPLETE	High	No
7	Process	Produce and publish maps annually demonstrating priorities for: Streets, Sidewalks, Curb/Ramps/Intersections, Schools, Fire Hydrants, Storm Drains, Roofs, City Facilities. The map update process will be dynamic and may occur during events.	COMPLETE	High	No
8	Process	Develop GIS based flexible "Snow Plan" data model so adjustments to plans can be updated quickly (as plan scales up and down) and information disseminated across the enterprise via GARI (Geographic Analysis and Research Interface) system. (GIS database development)	COMPLETE	High	No
9	Policy	Amend City Ordinance (§5-8-132) regarding snow emergency routes to reflect only the following streets Route 1 (city limit to city limit), Washington Street (city limit to city limit), Duke Street (Washington Street to western city limit) and King Street (Union Street to western city limit).	PENDING	Mid	No
10	Policy	Amend Snow emergency plan No. 4, parking (§5-8-133), to allow for opening of existing city-owned, public parking garages to encourage off-street parking during significant snow events.	PENDING	Mid	No
11	Policy	Amend City Ordinance §9-12-132, section 10 to provide more detail on when taxi surcharges should be lifted.	PENDING	Mid	No
12	Policy	Amend City Ordinance (§5-2-21) to prevent private entities or operators from plowing snow from driveways, parking lots or private streets onto city streets.	PENDING	Mid	No

Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #2: Operations

Item	Category	Recommendation	Deadline	Priority	Funding
13	Resource	Purchase and install reflective flagging for fire hydrants to assist with location in deep snow.	FY2012	Mid	Yes
14	Process	Ensure logistics branch chief (ICS) handles duties such as processing unsolicited and solicited contractors.	COMPLETE	High	No
15	Resource	Secure annual agreements for snow/debris storage in accordance with existing debris management plan and include locations in the annual readiness review report.	COMPLETE	High	No
16	Resource	Secure the rental use of a snow melter to assist with snow removal and reduce the need for storage and hauling.	FY2012	Mid	Yes
17	Resource	Replace planned purchase of some sedans in public safety departments (which are scheduled to be replaced) with comparably priced 4WD vehicles (e.g., Ford Explorer 4x4 instead of Crown Victoria for Police) to ensure better mobility and more available vehicles during snow events.	FY2012	Mid	Yes
18	Process	Conduct WebEOC training for Snow Ops staff (T&ES, RPCA, General Services) to expand institutional knowledge and consider desired functionality improvements to WebEOC (i.e. archiving).	COMPLETE	High	Yes/No
19	Policy	Conduct annual review of RPCA MOU with ACPS for snow removal.	COMPLETE	High	No
20	Process	Develop methodology for capturing and sharing condition assessment relative to storm event goals that is interoperable with other City systems and sharable through GARI (GIS application development/integration).	COMPLETE	High	Yes
21	Process	Develop methodology for capturing, communicating and managing ad-hoc situations during an emergency event. This would focus on those which can be anticipated but not fully mitigated in advance and would be interoperable with other City systems such as CRM/Cityworks.	COMPLETE	High	Yes

Shaded rows indicate high priority items.

Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #3: Communications

Item	Category	Recommendation	Deadline	Priority	Funding
22	Policy	Communicate updated, defined goals and objectives to the community prior to the winter season using all communication tools; hold a preseason push in October-November.	IN PROGRESS	High	No
23	Process	Improve call center access to information for call center staff, provide more public information over the phone and web.	IN PROGRESS	High	No
24	Process	Build shared system (ACPS and City) to update snow related changes and cancellations simultaneously during snow or other emergencies.	COMPLETE	High	No
25	Process	Consolidate information from field crews, call center, FD/PD and other communications to provide real time data for the GIS built GARI (Geographic Analysis and Research Interface) system, and newly created Snow Reports. Promote during preseason push; ensure interoperability.	COMPLETE	High	Yes
26	Process	CRM/Cityworks is currently under development by ITS and Communications with an expected early summer launch. Cityworks will assist with situational awareness and provide real time problem solving, and updated information for GARI and snow reports.	COMPLETE	High	No

Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #4: Finance & Administration

Item	Category	Recommendation	Deadline	Priority	Funding
27	Process	Ensure processing of payroll: In worst-case scenario, pay under standard hour basis. Adjust and/or correct in next pay period.	To be completed as resources allow	Mid	No
28	Process	Identify official, authorized payroll contacts within a Department and within Finance to ensure payrolls are run.	COMPLETE	Mid	No
29	Process	Identify, train and equip more logistics personnel for emergencies.	To be completed as resources allow	Mid	No
30 b	Policy	Identify official, authorized contract-purchase order-purchase card contacts within Departments and within Procurement to adjust purchase card limits and for emergency use of critical contracts. Provide list to Procurement.	To be completed as resources allow	Mid	No
31	Resource	Designate at least one Procurement staff (buyer) on every shift to negotiate cost of items being purchased or leased	To be completed as resources allow	Mid	No
32	Process	Publish an electronic list of vendors available to the Logistics section of an ICS structure in the event that a purchasing agent or buyer is not available to obtain items or negotiate contracts.	COMPLETE	High	No
33	Resource	Provide temporary delegations, for back-up or temporary assignment, to Departments from General Services for emergency repairs to facilities and for fuel purchases (if General Services unable to respond)	To be completed as resources allow	High	No

Item	Category	Recommendation	Deadline	Priority	Funding
34	Resource	Provide temporary delegations, for back-up or temporary assignment, to Departments for critical vehicle repairs should City Shops be unable to accommodate the needed repair with existing City-provided emergency resources	To be completed as resources allow	Mid	No
35	Policy	Overarching coordination will be achieved through use of NIMS-ICS organizational structure and operation of the EOC	To be completed as resources allow	Mid	No
36	Process	Each Department should identify its principal Point-of-Contact (POC) during the emergency. He/she should be empowered to represent his/her Department and be held accountable for all his/her actions.	To be completed as resources allow	Mid	No
37	Resource	Because of space constraints within the City's temporary EOC, only those City employees with assigned emergency response responsibilities shall report to the EOC	To be completed as resources allow	Mid	No
38	Resource	Identify respective POCs within Departments and City support units	To be completed as resources allow	Mid	No
39	Process	Maintain updated "telephone/e-mail trees/list" of critical personnel within each Department and City support unit, by expertise that could be called in by Department POCs during an emergency. This listing should be updated periodically (every three months) and well-publicized within each Department and City support unit.	To be completed as resources allow	Mid	No
40	Process	Having fall-back plans should alleviate a majority of administrative issues that could occur with a short-term or even long-term emergency, i.e., decisions on re-running prior pay period payrolls, increasing limits on purchase cards, and ability to utilize critical contracts.	To be completed as resources allow	Mid	No
41	Process	Give clear instructions and purpose of the tasks assigned at the call center. A manual to train call center staff should be created.	To be completed as resources allow	Mid	Yes

Item	Category	Recommendation	Deadline	Priority	Funding
42	Resource	Annually train staff on available computer technologies to support mission critical communications.	To be completed as resources allow	Mid	No
43	Resource	Clarify that in future emergency events, lodging shall be handled by the logistics sections in the EOC.	IN PROGRESS	High	No
44	Process	Only the City lodging lead shall be empowered to make room reservations on behalf of the City. The City lodging lead shall contract with hotels for housing of critical employees during an emergency and for identifying hotels and numbers of available rooms during an emergency.	To be completed as resources allow	Mid	No
45	Process	The department lodging lead/POC shall identify the numbers of rooms required for department personnel and for which nights. The department lodging lead shall ensure that reservations are made by employee name to minimize confusion among employees and the contracted hotels and in anticipation that the City can secure potential reimbursement from State or Federal sources. In order to minimize lodging costs, it is recommended that two employees share a single room, where feasible.	To be completed as resources allow	Mid	No
46	Resource	Designate a day time and night time logistics person to handle food delivery to places such as the EOC or Snow Ops.	IN PROGRESS	High	No
47	Process	Establish agreements in advance with local restaurants that are likely to remain open during an emergency so that city staff can readily find places to eat during the emergency.	IN PROGRESS	High	No

Item	Category	Recommendation	Deadline	Priority	Funding
48	Process	If a City, State, or National Emergency is declared, CFO issues an OCA and accompanying direction for that emergency, e.g., the OCA must be used for emergency-related expenditures. CFO will ensure, during the emergency, that all Departments are using the emergency OCA so that when a final accounting of emergency expenses is required, the City's accounting system can calculate expenses.	To be completed as resources allow	Mid	No
49	Resource	Secure lists of POCs within each Department who will receive the OCA and accompanying CFO instructions	IN PROGRESS	High	No
50	Process	Within each Department, the POCs will alert emergency staff managers and supervisors of the OCA and issue instruction on use for payroll and for purchase of good and services.	IN PROGRESS	High	No
51	Policy	For payroll purposes, each Department should identify under what situation an employee will be paid using an emergency OCA. (For example, during the December 2009 snow emergency, the Fire Department had to adjust its payroll to distinguish between those <i>Fire and EMS</i> personnel who were already scheduled to work overtime versus those who were specifically called into work and were paid overtime due to the snow emergency.) A City-wide AR is recommended; however, it is strongly recommended that all City Departments are provided an opportunity to contribute to the AR.	IN PROGRESS	High	No
52	Resource	Ensure adequate support staff exists in field operations centers and in the field for accurate tracking of snow plow drivers and equipment, both internal and external, and for good maintenance and safe record keeping of supporting documentations for FEMA submission.	COMPLETE	High	Yes

Item	Category	Recommendation	Deadline	Priority	Funding
53	Process	Provide standardized forms and procedures for consistency and efficient/effective tracking (accuracy of data being tracked for equipment used, standard format of the data entry for staff/contractor's name on shift).	COMPLETE	High	No
54	Process	Maintain utilization logs for equipment used (in tree removals, drains, inlets etc).	COMPLETE	High	Yes
55	Process	Capture and track internal and external equipment cost.	To be completed as resources allow	Mid	Yes
56	Resource	In the event of a post-emergency opportunity to secure compensation for City expenses, the City should identify one individual responsible for collecting the information for all City-wide expenses, e.g., payroll records and invoices	To be completed as resources allow	Mid	Yes
57	Process	Issue standard guidance, formats and templates to all Departments for reporting emergency expenses.	IN PROGRESS	High	No
58	Process	Rely primarily on official City accounting records for reporting emergency-related expenditures to one cost center.	To be completed as resources allow	Mid	No
59	Process	Move expenditures or make JV transfers to record all expenditures in one cost center.	To be completed as resources allow	High	No
60	Process	Consider employee safety in decision making on City operation/closure – Recommended solutions: availability of telecommuting, delayed openings.	COMPLETE	High	No
61	Policy	Clearly define "Essential staff" which should be established by position and not include names.	IN PROGRESS	High	No

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EXHIBIT NO. 119
6-22-10

City of Alexandria, Virginia

MEMORANDUM

DATE: JUNE 11, 2010

TO: THE HONORABLE MAYOR AND MEMBERS OF COUNCIL

FROM: JAMES K. HARTMANN, CITY MANAGER *J*

SUBJECT: AFTER-ACTION REVIEW OF 2009/2010 SNOW EMERGENCIES AND IMPLEMENTATION PLAN FOR 2010/2011 WINTER PREPAREDNESS

ISSUE: Review of City after-action report on the 2009/2010 snow emergencies and implementation plan for 2010/2011 winter preparedness.

RECOMMENDATION: That City Council receive this report.

BACKGROUND: Between December 19, 2009, and February 10, 2010, the City received approximately 54.9 inches of snow, including 20 inches in 24 hours on December 19, 2009, and two back-to-back storms of 17.8 inches on February 5 and 6 and 10.8 inches on February 10. These weather emergencies placed extreme stress on the City's resources, which are typically sufficient for an average annual accumulation of 15 inches and spread out over several events in the 4-to-8 inch range. The Blizzards of 2010 – coupled with a prolonged stretch of cold weather – created severe mobility challenges across the region with major disruptions to roads and transit. All City services were impacted and schools were closed for 12 days in response to the February storms. The National Weather Service ultimately declared the winter of 2009/2010 the snowiest on record; a total of 56.1 inches fell at Reagan National Airport over the winter of 2009/2010, the most since 1898/1899.¹

In an effort to continually improve the City's response to snow and other major weather-related emergencies, the City Manager in February directed staff to conduct an after-action review of the City's response to the Blizzards of 2009/2010. This review process involved 14 departments and was intended to focus on lessons learned and action items for implementation. The review identified items of high priority which are being undertaken prior to the 2010/2011 winter season and others that will require additional resources such as funding or staff and thus will take longer to implement. The City's internal review also incorporated recommendations from a Metropolitan Washington Council of Governments Leadership Forum on Snow Response, with an emphasis on regional coordination.

¹ National Weather Service Precipitation Summary and Temperature Observations for Washington, DC and Baltimore, MD area, <http://www.nws.noaa.gov/os/presto/2010febcover.pdf>.

This memo includes a recap of the City's snow response, an overview of the City review process, updates on staff's after-action report and an implementation plan for use prior to the 2010/2011 winter season. Attachment 1 is a comprehensive work plan outlining staff's 61 recommended changes to existing City policies, processes or resources.

DISCUSSION: At the January 12 and February 16 Council legislative sessions, the City Manager and staff provided oral reports and updates to Council on snow removal efforts during the winter storms. These meetings allowed staff to identify lessons learned and provided City Council with an opportunity to relay constituent concerns regarding better City/School System coordination, dispatch of communications during emergencies, flexibility of City snow policies and prioritization of streets for clearing. Certain adjustments to policy were actually made prior to the February events and implemented during the February storms. Other lessons learned added to the knowledge base and identification of enhancement areas for future events, and have been incorporated into this document.

Standard City Response to Snow Clearing and Removal

The City has snow clearing responsibility for 521 lane miles of roadways, 20 miles of publicly-owned sidewalks, walkways and pathways and 44 acres of municipal parking lots and publicly owned squares. For a typical storm, the City relies on approximately 35 City-owned trucks, approximately 20 pieces of heavy equipment by contractors and hand clearing efforts by City laborers using dozens of small pieces of equipment (blowers, shovels, and small plows). In February in response to the heavy back-to-back snowfalls, the City also purchased two sidewalk clearing vehicles (Bombardiers) which were used in February and will be integral pieces of equipment during future storms. The City's standard response is a coordinated effort that includes operational support from City departments such as Transportation & Environmental Services, Recreation, Parks and Cultural Activities, General Services and the Public Safety agencies, as well as essential personnel from departments such as the City Manager's Office, Finance, Planning & Zoning and other departments as needed.

Many snow events are managed from the Snow Operations Center at 2900 Business Center Drive. More significant weather emergencies are managed from the City's Emergency Operations Center (EOC) which includes a primary incident command at the Lee Center, 1108 Jefferson Street. Staff at different locations across the City communicate using WebEOC, a web-enabled crisis information management system.

City snow response crews are provided standard operational objectives during snow storms which include focusing on roadways classified as Primary (Red), Secondary (Blue) and Residential/Other (Gray) in 11 different zones across the City. Primary routes provide critical emergency and essential vehicle connections on arterial roads, bus routes and streets adjacent to 24-hour facilities, warming centers and hospitals. Secondary routes address locations significant to internal mobility or with topographic challenges such as hills or curves. Streets classified as Residential/Other are generally neighborhood or lower-volume streets. During and immediately after snow events, City crews and contractors also simultaneously clear snow from City-owned sidewalks near critical (24-hour) facilities and major multi-modal transportation corridors such as near Metro stations. The clearing of snow from sidewalks near other City-owned properties such as schools, libraries, administrative offices, recreation centers and parks is also undertaken in priority order with an emphasis on public safety. The priority order of snow clearing and removal activities is established by an Incident Commander.

Blizzards of 2010: Coordinated Citywide Response

During the Blizzards of 2010, the City operated under a local emergency declaration and the City Manager, as primary Incident Commander, provided general control objectives in 12-hour intervals for snow plowing and other incident response. The City was one of few local jurisdictions to open its EOC prior to the February storms and begin advance planning prior to the onset of the storms. Staff from multiple departments convened in the Emergency Operations Center, Snow Operations Center and Fire Operations Center to allow for a coordinated response with regular videoconferences between the centers and continual updates on the status of utilities, warming centers and other critical City infrastructure. Attachment 2, "EOC Organization Assignment List," is an example of an organization chart that demonstrates the roles filled by City staff members for the different branches within the Emergency Operations Center. Similar charts are created at 12-hour intervals during emergency events.

During the February storms, the City's primary objectives as outlined by the Incident Commander included:

- a) providing for general safety of residents, visitors, business and employees;
- b) supporting medical needs of residents and visitors;
- c) providing essential services to community and, when possible, supporting mutual aid requests; and
- d) keeping all personnel well informed with adequate communications.

The City's primary objectives because of the severity of the snowfall emphasized the emergency nature of the storms with a priority given to making all streets Citywide, regardless of their classification, *passable for emergency vehicles*. This was a major operational change from past practices and intended to emphasize that many streets would not be cleared curb-to-curb or down to bare pavement. Instead, all streets were first plowed to "passable" status to allow emergency access. Once emergency access had been provided Citywide, crews made subsequent passes on streets in priority order (Primary, Secondary and Residential) to continually improve conditions and mobility.

During their shifts, snow plow operators and hand-clearing crew supervisors provided reports on clearing activities to the Snow Operations Center which were subsequently entered into a database, Geographic Analysis and Research Interface (GARI). Snow plow operators typically provide reports via radio to the Snow Operations Center. One code/radio call sign is used to communicate that a plow has made a pass on a certain route or has treated a route with an application of salt (in some situations, typically prior to accumulation when plows would be needed, trucks may only treat roads with salt). This call is typically made to indicate that a street is passable for emergency vehicles or in other limited capacity. Snow plow operators will provide a second and final call to the Snow Operations Center when a facility (or street) is clear and no further action is required. Streets are also spot-checked by zone supervisors to ensure accuracy.

This radio notification system was coordinated with WebEOC to provide situational awareness to decision makers and the Incident Commander. During the February storm, City staff from Code Enforcement also served as "snow spotters" in the field to perform objective condition assessments in each of the City's 11 zones for roads, sidewalks and fire hydrants. Inspectors

provided information on each Primary, Secondary or Residential route within each zone according to the following criteria which corresponds to the Snow Operations indications:

Condition Assessment	
Clear	The facility, road, sidewalk or hydrant is complete and no further action will be required.
Passable	The facility, road, or sidewalk is usable but unsafe. It is available in a limited capacity or for limited use.
Impassable	The facility, road, sidewalk or hydrant is completely unsafe, inaccessible or impassable, by all but emergency personal or those with exceptional equipment.

This information was ultimately cross referenced with data provided to Snow Operations supervisors and coordinated with Incident Command to continually improve situational awareness during the course of the event and allow branch chiefs within the EOC to direct operations accordingly. City senior management also periodically did field reviews to increase their situational awareness.

Blizzard of 2010: Resources Employed

Snow maintenance crews worked around the clock in 12-hour shifts during the storms and ultimately more than 300 City staff members worked alongside contracted labor during each storm event. As in most storms, crews from multiple departments worked simultaneously on different aspects of the operation. For instance, while snow plow drivers focus on their assignments, hand crews conduct secondary and tertiary snow clearing including the removal of snow from fire hydrants to allow for emergency response, removal of snow from curb ramps/intersections, clearing sidewalks near Metro/transit and in high-density areas and schools. Because of safety, most sidewalk and hand clearing activities are limited to daytime although utility inspections and tree removal occurs around the clock.

The chart below is a snapshot of City resources employed during the storms:

RESOURCES	December	February
City Departments Involved	14	14
City Staff Hours	3,650	35,000 (approx)
Individual City Employees Involved	300+	300+
Contracted Snow Removal Workers	71	90
Pieces of Snow Removal Equipment (light/heavy)	91	108

Streets and Sidewalks

The City used over 100 pieces of heavy and light equipment during the Blizzards of 2010, including trucks provided by contractors and crews from as far away as Buffalo, New York during the February storms. A National Guard contingent of 14 from the Norfolk/Virginia Beach area also provided operational support in Alexandria in February. City of Alexandria crews and contractors applied more than 4,000 tons of salt and 8,000 gallons of calcium chloride on roadways and sidewalks. Additionally, City crews hauled 3,500 tons of snow from intersections, retail and commercial centers to a storage area at Potomac Yard and another 7,000 tons to a storage area at Victory Center on Eisenhower Avenue.

Snow removal from sidewalks was prioritized with the goal of ensuring citizen safety and assuring mobility to critical facilities and transit stops. City and Alexandria City Public School crews cleared school sites and heavily traveled sidewalks near schools while, in many locations, parents and school employees worked on their own in an unofficial capacity to clear snow from sidewalks, bus stops and school entrances. The City's existing Snow Buddies program provided volunteer assistance to approximately 37 low or fixed income homeowners and renters who could not clear snow from their property because they are elderly or disabled.

During the February 5-6 storm event, the Incident Commander temporarily suspended enforcement of the City's sidewalk snow clearing ordinance (§ 5-2-21) of the City Code which requires residents and business owners to clear snow from all paved sidewalks abutting their property within 24 hours of the end of the snowfall or be fined \$50. However, beginning February 19 inspectors from the Construction & Inspection Division of T&ES began issuing warning letters to property owners and ultimately distributed 52 letters from February 19 to 23. Staff from Code Administration also distributed 160 letters during the course of the February event for a total of 212 letters issued to residents or businesses for failure to comply with § 5-2-21. Compliance by letter recipients was mixed and the Code Administration staff ultimately issued 12 civil fines.

Fire Hydrants

In addition to snow clearing efforts on roadways, sidewalks and from intersections, City crews were heavily involved in removal of snow from the City's 3,000 fire hydrants and hundreds of storm drains to prevent flooding. Using fire zone maps, Sheriff Inmate Teams and City laborers conducted hydrant clearance. Supervisors collected data from the crews every six hours and recorded the data on a master map which was revised regularly by staff, reviewed by a team leader and ultimately provided to the Incident Commander. Because Alexandria firefighters had quick access to a fire hydrant, a two-alarm fire on Bashford Lane in February was contained to only about \$340,000 in damage to one home and smoke damage to two other adjacent homes.

Utilities, Trees and Roofs

City tree removal crews and contractors worked in 12-hour shifts to remove hundreds of broken tree limbs and downed trees while utility companies, particularly Dominion Virginia Power, responded quickly to reports of downed lines and power outages including many reported through the City WebEOC or called in to the Call Center. At the peak of the February storm, more than 2,000 Alexandria customers were without power.

Due to the snowfall from the back-to-back events in February, many City of Alexandria critical facility roofs were considered in danger of structural failure due to snow load. Staff developed a plan for organizational structure, personnel, equipment resources/assets, and procedures for vulnerable facility assessment, identification, and snow removal. A special Roof Snow Removal Group was established to conduct roof snow load assessments and coordinating contractor support for the removal of snow from critical facilities deemed highest priority and most vulnerable.

Facilities were assessed and categorized according to the following priority levels:

- Level 1 – Facility is deemed a critical facility, and is essential to emergency operations, public safety, or mass care.
- Level 2 – Facility is deemed a critical facility, supports City operations or is a large, privately-owned public gathering place.
- Level 3 – Facility is non-City owned, is a public transportation facility, or a tier-3 City facility.

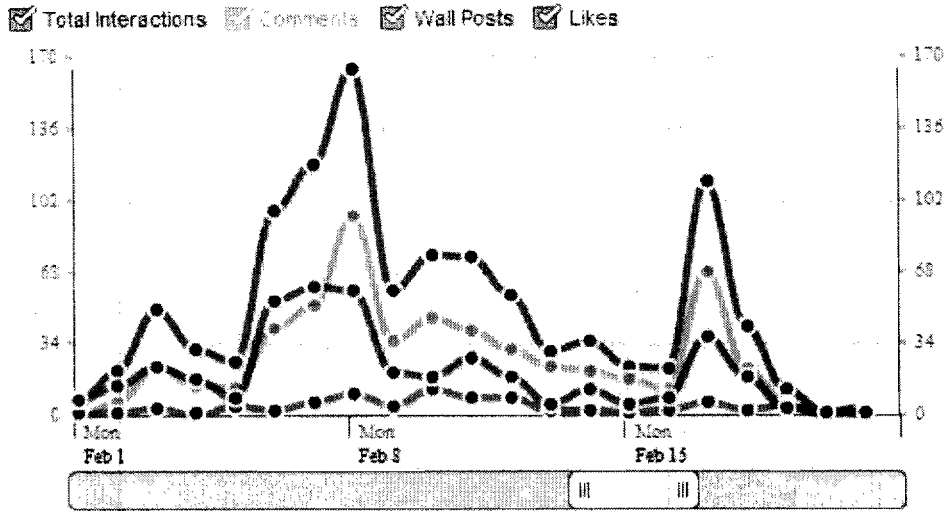
Communications & Information Technology

The City also undertook a major communications effort during the blizzards, including staffing of a Call Center, regular eNews releases and website updates, coordination with City Council and use of social media such as Twitter and Facebook. The primary goal of the City’s communication efforts was to provide timely and accurate public information during the storms.

A brief summary of communications efforts is below. The table below does not reflect all emails sent directly to staff from citizens.

COMMUNICATION	December	February
Views of alexandriava.gov	478,978	598,284
Biggest day of website views	Dec. 9, 2009: 22,535	February 8, 2010: 33,268
Total “Contact Use” messages	854	1,031
Snow-Related Web Page Updates	68	23
Tweets	53 (plus 38 Re-Tweets)	126 (between Feb. 2-23)
Facebook posts	51	86 (between Feb. 2-16)
Citywide news releases/media advisories	15	17
Local media inquiries	12	16
Updates to City Council	8	26
Telephone Calls	Call Center Not Operational	3,600

The City’s social media efforts were heavily used with up to 170 total interactions on the peak day (Monday, February 8) on Facebook and a period of seven straight days with between 34 and 100 comments each day.



The City’s Call Center was also heavily used during the February storms and recorded approximately 3,600 calls during the 10-day stretch from February 5-15.

Alexandria Mayor William Euille provided 16 live or taped interviews to local television and radio news outlets during the storm. The Mayor appeared on all the local television and radio stations including radio station WTOP, WMAL, WAMU, and television stations WRC, WTTG, WJLA, NewsChannel 8 and WUSA. Communications Officers provided on the record information to the Associated Press, *The Washington Post*, *The Washington Times*, *The DC Examiner*, *The Alexandria Times*, *The Alexandria Gazette* and *Alexandrianews.org* throughout the storm. CNN was also live for several days in Alexandria reporting on the storm. Mayor Euille was live on CNN’s American Morning, and Communications Officers provided CNN background information about how Alexandria handled the snow storm.

Another major initiative during the Blizzards of 2010 was to provide better situational awareness to decision-makers by way of regularly updated maps and condition assessments. Staff from the City’s Information Technology Department and Planning and Zoning’s Geographic Information Systems Division created an external (on-line) Snow Report “tracker” for use by citizens during the storms. Internal maps were also produced to provide graphical representation of incident objectives during each operational period. These maps were produced at 12-hour intervals during the beginning of the storm. A separate map series also tracked progress of snow plows and was used by the Snow Operations staff to redirect resources as needed. Attachment 3, “Incident Objectives February Snow Event (February 5, 2010),” is an example of a map produced by staff that visually represents City plowing priorities on February 5, 2010. Attachment 4, “Plow Activity,” shows plow activity as reported through Thursday, February 11, 2010, at 3:30 p.m.

Visits to the Alexandria website (598,284 total) dwarfed the snow information and Snow Report application, suggesting that for many visitors the web boxes and alert boxes provided all the information they needed about City snow removal efforts.

Blizzard of 2010: Aftermath

The City's emergency response efforts during the unprecedented snowfall of the Blizzard of 2010 were largely successful. Emergency response crews were able to respond to fires, the threat of power loss at Inova Alexandria Hospital and a downed traffic signal pole on Duke Street. Although high winds and blizzard conditions made conditions hazardous and the prolonged, cold temperatures quickly froze snow into large drifts, snow was plowed from City streets within a reasonable amount of time given the unprecedented nature of the storms.

During and after plowing operations, large amounts of snow were removed from sidewalks near critical City facilities, major transit stations and from intersections using front end loaders and dump trucks. This labor intensive operation was intended to improve mobility and safety for other modes of transportation such as pedestrians, transit vehicles and bicyclists. Despite the City's efforts, mobility was severely affected throughout the event and for many days afterward with added problems on narrow streets and streets with cul-de-sacs. The maneuverability of plows was compounded by the volume of snow, downed utility lines, parked cars and a lack of places to store snow. In many instances, crews would plow snow from streets onto sidewalks and private contractors would plow snow from driveways or parking lots back onto the streets.

Services across Alexandria were limited for days with cancellations to events, prolonged closures of City facilities through February 16 and major impacts to on-street parking into the week of February 22. Debris removal and solid waste pickup were affected by the storms and City crews continue to deal with damaged trees and debris created by the storms. Damage to intersections, concrete curbs, catch basins and other infrastructure remains an ongoing concern that is requiring continual staff time and resources from the T&ES Maintenance Division.

Lessons Learned and Implementation Plan

As noted previously, the City Manager in February directed staff to conduct an after-action review of the City's response to the Blizzards of 2010. The overarching goal of the City's review process was to continue to institutionalize a coordinated, Citywide response to snow emergencies that is scalable and applicable to other emergency situations.

This review process involved 14 departments and allowed staff to identify lessons learned that could be converted directly into action items for implementation prior to future storms. Representatives from each department involved in the snow response were organized into five work group teams categorized to reflect key elements of the snow emergencies. The work group teams were: (1) Logistics & Planning, (2) Operations, (3) Communications & Technology, (4) Finance & Administration and (5) Legal.

The review ultimately identified 61 specific, measurable action items with recommended changes to existing City policies, processes or resources. These recommendations have been consolidated into a work plan with items of high priority which are being undertaken prior to the 2010/2011 winter season and others that are mid- or long-term action items. Pending resource availability, some action items may be implemented in 2010/2011, while others may require consideration in a future City budget process.

The City's internal review also incorporated recommendations from the Council of Governments Board which reviewed a Proposed Implementation Agenda at its meeting on April 14, 2010. The COG Board recommended major steps to improve the region's performance during major storms, many of which are consistent with the City's internal review such as the need to:

- Conduct an annual review/revision of the City's snow plans.
- Develop consistent parking practices and coordination.
- Improve communications and public messaging.

Short-Term Implementation Items & Work Plan

A significant implementation item to be addressed by City Staff prior to the 2010/2011 winter season includes development of a Snow Emergency Classification System with three Levels that: (a) defines threat/emergency conditions for the public and (b) guides the appropriate City response. As an example, the State of Ohio has developed a Snow Emergency Classification system for severe weather awareness with the following levels:

SAMPLE LEVEL 1: Roadways are hazardous with blowing and drifting snow. Roads may also be icy. Motorists are urged to drive very cautiously.

SAMPLE LEVEL 2: Roadways are hazardous with blowing and drifting snow. Roads may also be very icy. Only those who feel it is necessary to drive should be out on the roads. Contact your employer to see if you should report to work. Motorists should use extreme caution.

SAMPLE LEVEL 3: All roadways are closed to non-emergency personnel. No one should be driving during these conditions unless it is absolutely necessary to travel or a personal emergency exists. All employees should contact their employer to see if they should report to work.

Staff from the City's primary operational departments for snow response are developing coordinated plans using the National Incident Management System (NIMS) and Incident Command System (ICS) that will enable responders from all City departments and across all to work together more effectively and efficiently. In the future, the City will use the NIMS-ICS structure to respond to all winter storms which is a significant operational change.

Other major implementation items on the work plan include:

1. Improved coordination with Alexandria City Public Schools.
2. Trainings and tabletop exercises by operations staff leading to an annual readiness review by October 1 and an annual report for City Council by November 1.
3. Annual media outreach by the City's Office of Communications to occur in November.
4. Development of Geographic Information System (GIS) based flexible "Snow Plan" data models and methodology for more effectively capturing snow clearing logs/updates for purposes of condition assessment.
5. Revision of internal Finance & Administration process, policy and resource changes designed to ensure continuity of operations.

A complete list of recommendations including short-term action items with expected completion schedules may be found in Attachment 1.

NEXT STEPS: After considering input from City Council, the existing work group team leaders will implement high-priority action items that do not require additional funding. The items within the work plan (those shaded gray in Attachment 1) designated as high-priority are projected for completion in October 2010. Staff is also continuing progress on mid-priority work plan items and future budget requests (FY 2012) may be submitted for items with funding implications. Staff will provide an update and readiness report to Council in November 2010.

FISCAL IMPACT: For all the snow events of FY 2010, the City spent some \$8.8 million for snow removal response and related costs. It is estimated that the Federal and State governments will reimburse \$6.4 million of the \$8.0 million spent on the two snow events in December and February declared national disasters. For the future, staff is still developing funding estimates but all funding required for implementation will need to derive from either planned FY 2011 budget resources, or future FY 2012 budget requests.

ATTACHMENTS:

- Attachment 1: Snow Emergency Implementation Work Plan/Matrix
- Attachment 2: EOC Incident Organization
- Attachment 3: Incident Objectives February Snow Event (February 5, 2010)
- Attachment 4: Plow Activity Map

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Tom Gates, Assistant City Manager
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Steve Chozick, Planning & Zoning (GIS)
Yon Lambert, Principal Transportation Planner, T&ES

Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #1: Logistics & Planning

Item	Category	Recommendation	Deadline	Priority	Funding
1	Policy	Formalize structure for use of NIMS-ICS (National Incident Management System- Incident Command System) in the management of all emergencies in the City according with the NIMS doctrine.	Oct-10	High	No
2	Process	Develop a Snow Emergency Classification System with three Levels (Level 1, Level 2 and Level 3) that (a) define threat/emergency conditions for the public and (b) guides the appropriate City response.	Oct-10	High	No
3	Process	Winter storms classified as Level 1 (for instance when less than 8" snow is forecast or in other threat situations when conditions warrant) will be managed by the Snow Operations Center utilizing an Incident Command Structure (ICS). The Director of T&ES, or his authorized designee, will be responsible for developing the structure in accordance with the NIMS doctrine unless other threats dictated the opening of the EOC.	Oct-10	High	No
4	Process	Winter storms classified as Level 2 or 3 (for instance when more than 8" snow is forecast or in other significant threat situations) will be managed by the Emergency Operations Center in accordance with the City's Emergency Operations plan utilizing the Incident Command Structure (ICS). The City Manager, as the Director of Emergency Management for the City, will be responsible for developing the structure in accordance with the NIMS doctrine.	Oct-10	High	No
5	Process	Conduct annual readiness review no later than October 1 with designated departmental invitees.	Oct-10	High	No

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Item	Category	Recommendation	Deadline	Priority	Funding
6	Process	Develop written plan for snow and ice for ACPS that is consistent and coordinated with City plans.	Oct-10	High	No
7	Process	Produce and publish maps annually demonstrating priorities for: Streets, Sidewalks, Curb/Ramps/Intersections, Schools, Fire Hydrants, Storm Drains, Roofs, City Facilities. The map update process will be dynamic and may occur during events.	Oct-10	High	No
8	Process	Develop GIS based flexible "Snow Plan" data model so adjustments to plans can be updated quickly (as plan scales up and down) and information disseminated across the enterprise via GARI (Geographic Analysis and Research Interface) system. (GIS database development)	Oct-10	High	No
9	Policy	Amend City Ordinance (§5-8-132) regarding snow emergency routes to reflect only the following streets Route 1 (city limit to city limit), Washington Street (city limit to city limit), Duke Street (Washington Street to western city limit) and King Street (Union Street to western city limit).	Dec-10	Mid	No
10	Policy	Amend Snow emergency plan No. 4, parking (§5-8-133), to allow for opening of existing city-owned, public parking garages to encourage off-street parking during significant snow events.	Dec-10	Mid	No
11	Policy	Amend City Ordinance §9-12-132, section 10 to provide more detail on when taxi surcharges should be lifted.	Dec-10	Mid	No
12	Policy	Amend City Ordinance (§5-2-21) to prevent private entities or operators from plowing snow form driveways, parking lots or private streets onto city streets.	Dec-10	Mid	No

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Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #2: Operations

Item	Category	Recommendation	Deadline	Priority	Funding
13	Resource	Purchase and install reflective flagging for fire hydrants to assist with location in deep snow.	FY2012	Mid	Yes
14	Process	Ensure logistics branch chief (ICS) handles duties such as processing unsolicited and solicited contractors.	Oct-10	High	No
15	Resource	Secure annual agreements for snow/debris storage in accordance with existing debris management plan and include locations in the annual readiness review report.	Oct-10	High	No
16	Resource	Secure the rental use of a snow melter to assist with snow removal and reduce the need for storage and hauling.	FY2012	Mid	Yes
17	Resource	Replace planned purchase of some sedans in public safety departments (which are scheduled to be replaced) with comparably priced 4WD vehicles (e.g., Ford Explorer 4x4 instead of Crown Victoria for Police) to ensure better mobility and more available vehicles during snow events.	FY2012	Mid	Yes
18	Process	Conduct WebEOC training for Snow Ops staff (T&ES, RPCA, General Services) to expand institutional knowledge and consider desired functionality improvements to WebEOC (i.e. archiving).	Oct-10	High	No
19	Policy	Conduct annual review of RPCA MOU with ACPS for snow removal.	Oct-10	High	No
20	Process	Develop methodology for capturing and sharing condition assessment relative to storm event goals that is interoperable with other City systems and sharable through GARI (GIS application development/integration).	Oct-10	High	Yes
21	Process	Develop methodology for capturing, communicating and managing ad hoc situations during an emergency event. This would focus on those which can be anticipated but not fully mitigated in advance and would be interoperable with other City systems such as CRM/Cityworks.	Oct-10	High	Yes

Shaded rows indicate high priority items.

Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #3: Communications

Item	Category	Recommendation	Deadline	Priority	Funding
22	Policy	Communicate updated, defined goals and objectives to the community prior to the winter season using all communication tools; hold a preseason push in October-November.	Oct-10	High	No
23	Process	Improve call center access to information for call center staff, provide more public information over the phone and web.	Oct-10	High	No
24	Process	Build shared system (ACPS and City) to update snow related changes and cancellations simultaneously during snow or other emergencies.	Oct-10	High	No
25	Process	Consolidate information from field crews, call center, FD/PD and other communications to provide real time data for the GIS built GARI (Geographic Analysis and Research Interface) system, and newly created Snow Reports. Promote during preseason push; ensure interoperability.	Oct-10	High	Yes
26	Process	CRM/Cityworks is currently under development by ITS and Communications with an expected early summer launch. Cityworks will assist with situational awareness and provide real time problem solving, and updated information for GARI and snow reports.	Oct-10	High	No

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Snow Emergency Review: Winter 2010-11 Implementation Plan

Workgroup Team #4: Finance & Administration

Item	Category	Recommendation	Deadline	Priority	Funding
27	Process	Ensure processing of payroll: In worst-case scenario, pay under standard hour basis. Adjust and/or correct in next pay period.	To be completed as resources allow	Mid	No
28	Process	Identify official, authorized payroll contacts within a Department and within Finance to ensure payrolls are run.	To be completed as resources allow	Mid	No
29	Process	Identify, train and equip more logistics personnel for emergencies.	To be completed as resources allow	Mid	No
30	Policy	Identify official, authorized contract-purchase order-purchase card contacts within Departments and within Procurement to adjust purchase card limits and for emergency use of critical contracts. Provide list to Procurement.	To be completed as resources allow	Mid	No
31	Resource	Designate at least one Procurement staff (buyer) on every shift to negotiate cost of items being purchased or leased	To be completed as resources allow	Mid	No
32	Process	Publish an electronic list of vendors available to the Logistics section of an ICS structure in the event that a purchasing agent or buyer is not available to obtain items or negotiate contracts.	Oct-10	High	No
33	Resource	Provide temporary delegations, for back-up or temporary assignment, to Departments from General Services for emergency repairs to facilities and for fuel purchases (if General Services unable to respond)	To be completed as resources allow	High	No

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Item	Category	Recommendation	Deadline	Priority	Funding
34	Resource	Provide temporary delegations, for back-up or temporary assignment, to Departments for critical vehicle repairs should City Shops be unable to accommodate the needed repair with existing City-provided emergency resources	To be completed as resources allow	Mid	No
35	Policy	Overarching coordination will be achieved through use of NIMS-ICS organizational structure and operation of the EOC	To be completed as resources allow	Mid	No
36	Process	Each Department should identify its principal Point-of-Contact (POC) during the emergency. He/she should be empowered to represent his/her Department and be held accountable for all his/her actions.	To be completed as resources allow	Mid	No
37	Resource	Because of space constraints within the City's temporary EOC, only those City employees with assigned emergency response responsibilities shall report to the EOC	To be completed as resources allow	Mid	No
38	Resource	Identify respective POCs within Departments and City support units	To be completed as resources allow	Mid	No
39	Process	Maintain updated "telephone/e-mail trees/list" of critical personnel within each Department and City support unit, by expertise that could be called in by Department POCs during an emergency. This listing should be updated periodically (every three months) and well-publicized within each Department and City support unit.	To be completed as resources allow	Mid	No
40	Process	Having fall-back plans should alleviate a majority of administrative issues that could occur with a short-term or even long-term emergency, i.e., decisions on re-running prior pay period payrolls, increasing limits on purchase cards, and ability to utilize critical contracts.	To be completed as resources allow	Mid	No
41	Process	Give clear instructions and purpose of the tasks assigned at the call center. A manual to train call center staff should be created.	To be completed as resources allow	Mid	Yes

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Item	Category	Recommendation	Deadline	Priority	Funding
42	Resource	Annually train staff on available computer technologies to support mission critical communications.	To be completed as resources allow	Mid	No
43	Resource	Clarify that in future emergency events, lodging shall be handled by the logistics sections in the EOC.	To be completed as resources allow	Mid	No
44	Process	Only the City lodging lead shall be empowered to make room reservations on behalf of the City. The City lodging lead shall contract with hotels for housing of critical employees during an emergency and for identifying hotels and numbers of available rooms during an emergency.	To be completed as resources allow	Mid	No
45	Process	The department lodging lead/POC shall identify the numbers of rooms required for department personnel and for which nights. The department lodging lead shall ensure that reservations are made by employee name to minimize confusion among employees and the contracted hotels and in anticipation that the City can secure potential reimbursement from State or Federal sources. In order to minimize lodging costs, it is recommended that two employees share a single room, where feasible.	To be completed as resources allow	Mid	No
46	Resource	Designate a day time and night time logistics person to handle food delivery to places such as the EOC or Snow Ops.	To be completed as resources allow	Mid	No
47	Process	Establish agreements in advance with local restaurants that are likely to remain open during an emergency so that city staff can readily find places to eat during the emergency.	To be completed as resources allow	Mid	No

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Item	Category	Recommendation	Deadline	Priority	Funding
48	Process	If a City, State, or National Emergency is declared, CFO issues an OCA and accompanying direction for that emergency, e.g., the OCA must be used for emergency-related expenditures. CFO will ensure, during the emergency, that all Departments are using the emergency OCA so that when a final accounting of emergency expenses is required, the City's accounting system can calculate expenses.	To be completed as resources allow	Mid	No
49	Resource	Secure lists of POCs within each Department who will receive the OCA and accompanying CFO instructions	To be completed as resources allow	Mid	No
50	Process	Within each Department, the POCs will alert emergency staff managers and supervisors of the OCA and issue instruction on use for payroll and for purchase of good and services.	To be completed as resources allow	Mid	No
51	Policy	For payroll purposes, each Department should identify under what situation an employee will be paid using an emergency OCA. (For example, during the December 2009 snow emergency, the Fire Department had to adjust its payroll to distinguish between those <i>Fire and EMS</i> personnel who were already scheduled to work overtime versus those who were specifically called into work and were paid overtime due to the snow emergency.) A City-wide AR is recommended; however, it is strongly recommended that all City Departments are provided an opportunity to contribute to the AR.	Oct-10	High	No
52	Resource	Ensure adequate support staff exists in field operations centers and in the field for accurate tracking of snow plower drivers and equipment, both internal and external, and for good maintenance and safe record keeping of supporting documentations for FEMA submission.	To be completed as resources allow	Mid	Yes

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Item	Category	Recommendation	Deadline	Priority	Funding
53	Process	Provide standardized forms and procedures for consistency and efficient/effective tracking (accuracy of data being tracked for equipment used, standard format of the data entry for staff/contractor's name on shift).	Oct-10	High	No
54	Process	Maintain utilization logs for equipment used (in tree removals, drains, inlets etc).	To be completed as resources allow	Mid	Yes
55	Process	Capture and track internal and external equipment cost.	To be completed as resources allow	Mid	Yes
56	Resource	In the event of a post-emergency opportunity to secure compensation for City expenses, the City should identify one individual responsible for collecting the information for all City-wide expenses, e.g., payroll records and invoices	To be completed as resources allow	Mid	Yes
57	Process	Issue standard guidance, formats and templates to all Departments for reporting emergency expenses.	To be completed as resources allow	Mid	No
58	Process	Rely primarily on official City accounting records for reporting emergency-related expenditures to one cost center.	To be completed as resources allow	Mid	No
59	Process	Move expenditures or make JV transfers to record all expenditures in one cost center.	To be completed as resources allow	High	No
60	Process	Consider employee safety in decision making on City operation/closure – Recommended solutions: availability of telecommuting, delayed openings.	To be completed as resources allow	Mid	No
61	Policy	Clearly define "Essential staff" which should be established by position and not include names.	To be completed as resources allow	Mid	No

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1. Incident Name Alexandria Snow Ops	2. Date Prepared 02/13/2010	3. Time Prepared 0300	ORGANIZATION ASSIGNMENT LIST	
4. Operational Period Date: 02/13/2010 ongoing Time: 0700-1900				
5. Incident Commander & Staff			9. Operations Section	
IC - Day	Jim Hartmann [REDACTED]		Chief-Day	Adam Thiel [REDACTED]
IC - Night	Tom Gates [REDACTED]		Chief-Night	Brian Hrick [REDACTED]
Deputy-Day	Mark Penn [REDACTED]		Branch Director	Mitch Bernstein [REDACTED]
Deputy-Night	Ashley Ehrhart [REDACTED]		Branch Director	Bill Skrabak [REDACTED]
Safety Officer-Day	Wendy Brown [REDACTED]		a. Streets/Roads Group	
Safety Officer-Night	Rick Wilsey [REDACTED]		Division/Group	Ray Brown [REDACTED]
Inform. Officer-Day	Tony Castrilli [REDACTED]		Division/Group	
Inform. Officer-Night	Craig Fifer [REDACTED]		Division/Group	
6. Agency Representatives			Division/Group	
			Division/Group	
			Division/Group	
			Division/Group	
			b. Hydrants/Metros Group	
			Division/Group	Steve Tompkins [REDACTED]
			Division/Group	Walter Powell [REDACTED]
			Division/Group	
7. Planning Section			Division/Group	
Chief-Day	Joe Hoffmaster [REDACTED]		Division/Group	
Chief-Night	Byron Andrews [REDACTED]		c. General Services/Facilities Group	
Deputy			Division/Group	Archie Robinson [REDACTED]
Resources Unit			Division/Group	Mark Kitta
Situation Unit			Division/Group	Tony Hirz [REDACTED]
Documentation Unit			Division/Group	
Demobilization Unit			Division/Group	
Technical Specialists			d. Trees Group	
Check In Recorder			Division/Group	Jerry Deiruf [REDACTED]
			Division/Group	Ron Hill [REDACTED]
				John Walsh [REDACTED]
8. Logistics Section			e. Dispatch Group	
Chief-Day	Stafford Farmer-Lee [REDACTED]		Division/Group	
Chief-Night	John Mead [REDACTED]		Division/Group	
Deputy			Division/Group	
Supply Unit			Division/Group	
Facilities Unit	Lodging Contact until 02/12/10 0830		Division/Group	
	Cindy Catlett [REDACTED]		10. Finance Section	
Facilities Unit	Lodging Contact after 02/12/10 0830		Chief	
	Courtney Foddrell [REDACTED]		Deputy	
Ground Support Unit			Time Unit	
Communication Unit			Procurement Unit	
Medical Unit			Compen./Claims Unit	
Food Unit			Cost Unit	
Prepared By (Resource Unit Leader) Abi Lerner				

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Incident Objectives February Snow Event February 5th, 2010

- Legend**
- Priority
 - RTD/AGS
 - Primary
 - Secondary
 - Residential
 - 4 Subways at Metro
 - 5 24 Hour Facilities & Schools
 - 6 Sidewalks
 - Schools
 - Trees
 - Libraries
 - Snow Plow Zones
 - Metro Stops
 - Bus Stations

Scale: 0 100 200 Feet

North Arrow

Small text and logo at the bottom right of the legend area.

Plow Activity

Thursday, Feb 11, 2010
(as of 3:30 pm)

Legend

- Plowed at least once
- Treated at least once

M Metro Stations

- City Boundary

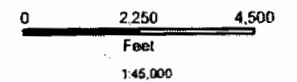
- Streams

▨ Surface Water

Schools

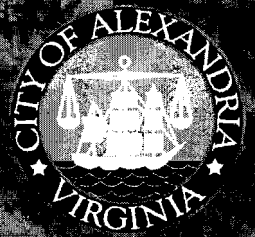
▨ Parks And Easements

City of Alexandria



This map was produced by the GIS
Division of the Department of Planning
and Zoning, City of Alexandria, Virginia.
Mapping Standards
Coordinate System - NAD83 State Plane Virginia North
Projection - Lambert Conformal Conic
Map Date - 1/11/10
Map Produced From





Docket Item #22
Staff Report on the City's
2010/11 Winter Weather
Preparedness

November 9, 2010

Overview

- 2009/10 After-Action Review
 - Resources
 - Policies
 - Processes
- Winter Weather Emergency System
- Ordinances

**Review
Mgmt
Team/City
Manager**

After-Action Review

- 14 entities
- COG leadership forum & Unified Regional Snow Plan
- Implementation plan with 61 changes to existing policies, processes or resources

**Resources/Partners
(Service Delivery)**

Utilities
CERT
Red Cross
Snow Buddies
Citizen's Asst.
Health Dept/Hospital

RPCA
General Services
Fire/EMS
Police
Schools
IT (GIS)
Sheriff

T&ES
RPCA
General Services
Fire/EMS
Police
Schools
IT (GIS)

Comm. lead
T&ES
Spec. Asst /CMO
IT (GIS)
Schools
Citizen's Asst.
Phone Bank

OMB (lead)
HR
T&ES
RPCA
GS
Fire/EMS
Procurement

City Atty (lead)
T&ES/C&I
RPCA
GS

Major Lessons Learned



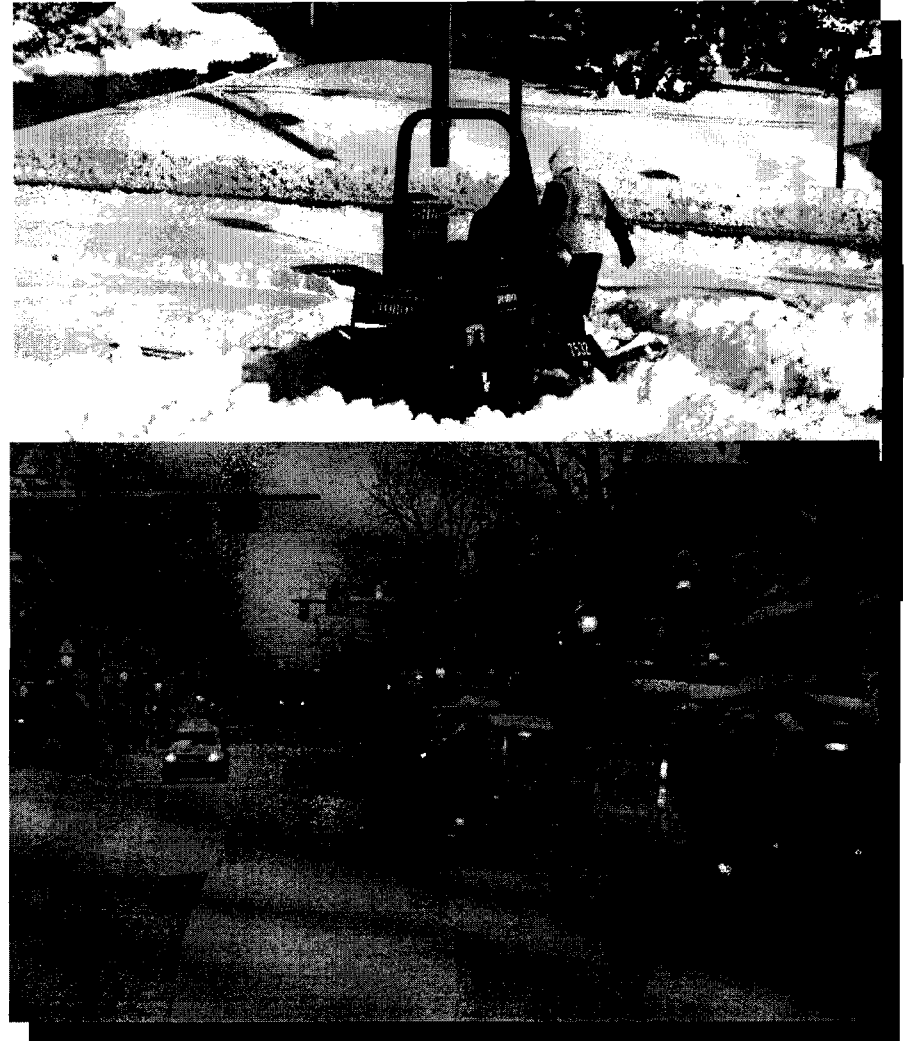
- Positives
 - Use of National Incident Management System structure
 - Communicating well-defined priorities and objectives
- Lessons Learned
 - Synchronizing plans and resources
 - Administrative policies and processes

Budget & Plan Reflects Expectations

Comparison Cities	Syracuse, N.Y.	Alexandria, Va.
Population	140,658	143,885
Area	26.6 sq. miles	15.4 sq miles
City Budget	\$633 million	\$531 million
Avg. Snowfall	150"	15"
Lane Miles	475	521
FY09 snow expenses	\$4.3 million	\$424,000
FY10 snow budget	\$3.5 million	\$701,000

Coordinated City Response

- 521 lane miles of roadway, 20 miles of publicly owned sidewalk and 44 acres of municipal parking lots/squares
- Approximately 35-50 city & contractor trucks
- Heavy & light equipment
- Multiple departments with 100+ staff



Winter 2010/11 Preparation

1. Development of Snow Emergency Classification System (Level 1-3) that:
 - a) Defines emergency conditions
 - b) Guides appropriate City response
2. Communications & Public Messaging
3. Staff Training
4. Development of Snow Plan models (GIS) for improved situational awareness
5. Ordinance Changes

Winter Weather Emergency System

	Incident	Message	Objectives
Level 1	Up to 8 inches snow (or other variables) that can be managed using existing City resources	Roads may be dangerous. Drivers are advised to use caution.	Snow-covered roads will be made passable and then plowed. Schools access is a priority. Roadways may not clear for 3 days.
Level 2	8+ inches of snow or conditions that require additional resources	Roadways are hazardous. Drivers advised to limit travel to emergency trips.	Bring conditions to Level 1 (up to 5 days to clear)
Level 3	Natural disaster conditions that outstrip City resources	Roadways closed to non-emergency personnel.	Bring conditions to Level 2 (no estimate available on clearing)

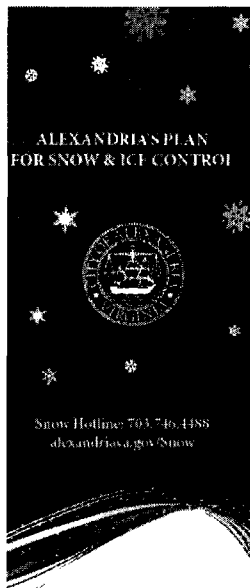
Priorities



- Primary, Secondary & Residential Roads – ***“passable” for emergency vehicles***
- Schools
- Sidewalks at Metro/transit and in high-density areas
- Fire hydrants & storm drains
- Curb ramps/intersections
- Utilities, Trees & Roofs

Communication

- New website, brochure for pre-season push
- Expanded use of “Snow Reports”
- Social media & hotline
- Terms & Definitions



CITY OF Alexandria VIRGINIA
ALEXANDRIAVA.GOV

Home Residents Visitors Business City Departments Contact Us Search

Home Snow & Ice Control Monday, November 8, 2010 Air Quality: Green

Snow & Ice Control

Page updated: Nov 2, 2010, 2:11:11 PM

Share RSS Print Text Size A A A

Snow emergency hotline: 703.746.4488

Snow and ice storms produce an average accumulation of 15 inches annually in Alexandria, generally spread over several events in a typical winter. Cleaning city streets and sidewalks is a difficult process that takes time, hard work, and good communication between residents, business owners, and the City. The City clears snow from 521 lane miles of roadways, 20 miles of publicly owned sidewalks, walkways, and pathways, and 44 acres of municipal parking lots and publicly owned squares. (Typically, alleys and non-municipal parking lots are not part of the City's snow removal operations.)

City Government & Public School Closings
City Government closings and cancellations are communicated in various forms including the City website, eNews alert messages, and social media. School closing announcements due to inclement weather are available from the Alexandria City Public Schools (ACPS) via telephone, the ACPS web site or Emergency E-news.

Snow Emergency Plan
Throughout the fall and winter months, City staff track potential storms 24 hours per day, and on-call City crews and contractors are available to begin working in 12-hour shifts when winter weather is in the forecast, and continue working on snow removal during and after the storm.

Winter Weather Emergency System
The City's winter weather emergency classifications are based on type and accumulation of precipitation with severity ranging from Level 1 (least severe) to Level 3 (most severe). The classifications are based on similar systems used widely in other jurisdictions. In Alexandria, the City Manager may declare a snow emergency and implement parking restrictions at any level.

Snow Removal Priorities
City crews treat and plow primary roads (which include snow emergency routes) followed by secondary routes (including hills). After these priorities are addressed, crews will begin plowing residential streets.

QUICK LINKS

- Snow & Ice Control
- City Government & Public School Closings
- Definitions for Snow Removal from City Streets
- How You Can Help
- Snow Emergency Plan
- Snow Removal on Sidewalks & Pathways
- Snow Removal Priorities
- Snow Shoveling Safety
- Snow Storm FAQs
- Winter Weather Emergency System

HOW DO I?

- Find volunteer opportunities?
- Find neighborhood parks?
- Apply for a marriage license?
- Pay my taxes or parking ticket?
- Find information about parking?
- Speak at a City Council meeting?
- Search property and sales data?
- Get information about permits?
- Learn more about Verizon FIOS?
- Start a small business?
- Find visitor information?
- Learn about new development?

Terms & Definitions

- Roads Closed
- Snow Covered
- Passable
 - Street is able to be driven and may have been plowed. Requires additional work.
- Plowed
 - Snow pushed to sides, leaving 1-2” of snow or some spots clear down to blacktop w/running water
- Snow Emergency Route



#1: Snow Covered



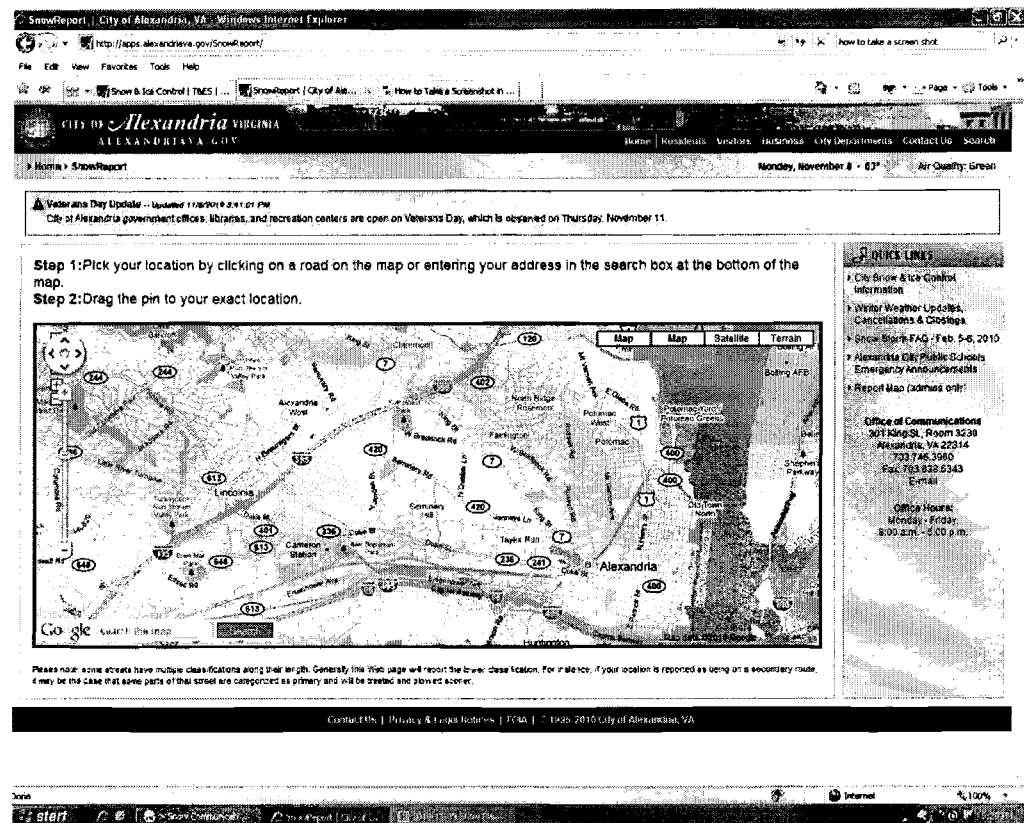
#2: Passable



#3: Plowed

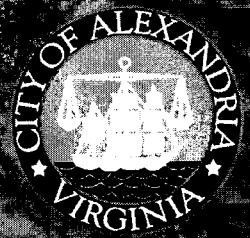
Maps and Snow Tracker

- Revised snow clearing maps considering updated school info, bus routes, hills for use by crews in the field
- Use of Geographic Analysis and Research Interface (GARI) as a common operating picture
- Public 'Snow Tracker' still under construction
- Basic integration between City work order system, GARI and WebEOC



Looking Ahead

- Continued regional coordination (especially parking)
- Operational improvements that maximize efficiency and reduce costs
- Explore treatments that provide better performance, lower costs and less impact on environment
- Continued use of advanced technology

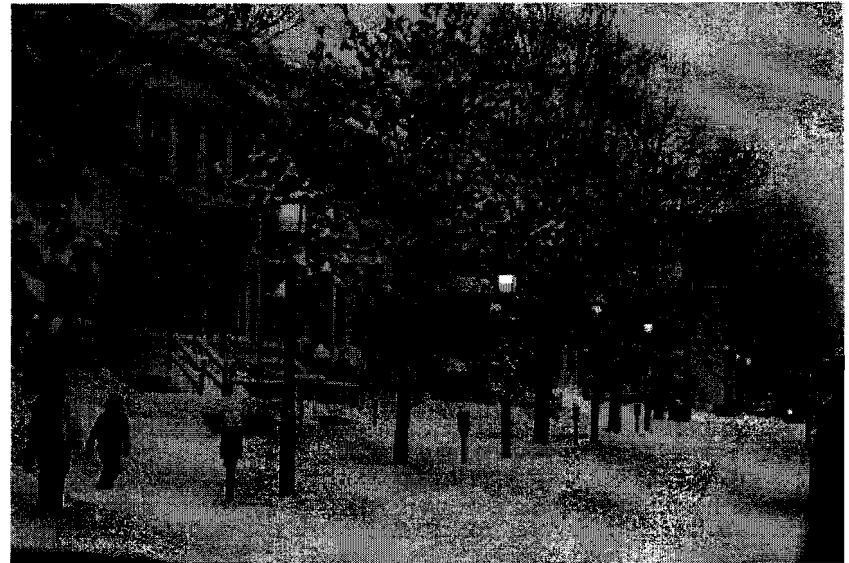


DISCUSSION

City of Alexandria, Virginia

City Code §5-2-21: Sidewalks

- Current code states that business owners and homeowners are responsible for clearing sidewalks abutting their property within 24 hours or be subject to \$50 fine
- Amendment would link the sidewalk clearing to the Winter Weather System:
 - Level 1 = 24 hours to clear
 - Level 2 = 48 hours to clear
 - Level 3 = 72 hours to clear



City Code:: Plan & Routes

- §5-8-131 creates Level 1-3 system for emergencies
- §5-8-132 revises the snow emergency route list from 28 streets to 8 streets where parking or other physical limitations impact the flow of traffic in a way that is of material concern for public safety
 - Snow Emergency Routes are a subset of the Primary routes
 - Level of service does not go down on any existing route



City Code :: Parking & Towing



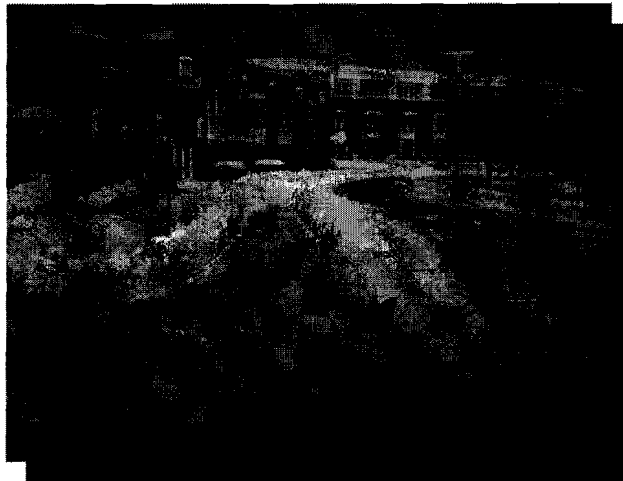
- §5-8-133 allows designation of snow parking emergency
- §5-8-135 allows City to remove or relocate vehicles from any street if they are hindering snow removal or treatment

2009-10 Review



- NWS stats for Alexandria:
 - Snowiest winter on record at 54.9”
 - December 19, 2009
 - 20” in 24 hrs, 30 mph wind
 - February 5-6, 2010
 - 17.8” on Feb. 5-6
 - 10.8” on Feb. 10
 - Severe mobility challenges
 - Power outages, trees down
 - Schools closed 12 days in February
 - City services limited

Level 1 Objectives



Roads Group

1. Primary Roads
2. Secondary/Hills
3. Local/Residential
4. Secondary School Parking Lots (clear)
5. Critical Curb Ramps

Pedestrian Group

1. All School Ped Areas & Elem. Parking Lots
2. Metro sidewalks
3. Overpasses & Bridges
4. Recreation Centers
5. Marina/Boat House
6. Parks/Trails

Facilities Group

1. 24 hour facilities (4)
2. Other City Facilities
 - City Buildings
 - Libraries
 - Museums

Level 2 Objectives



Roads Group

1. Primary Roads
2. Secondary/Hills
3. Local/Residential
4. School Parking Lots
5. Critical Curb Ramps
6. Catch Basins

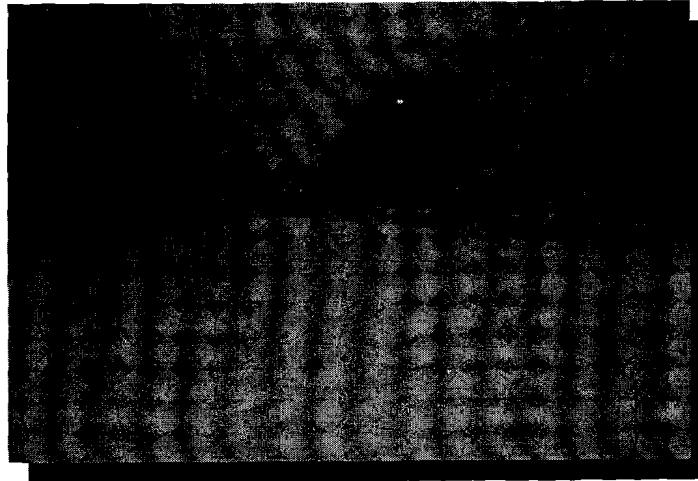
Pedestrian Group

1. Critical Infrastructure
2. Metro sidewalks
3. Schools
4. Overpasses/Bridges
5. Rec Centers
6. Marina/Boat House
7. Commuter Trails/Parks

Facilities Group

1. 24 hour facilities (4)
2. Other City Facilities
 - City Buildings
 - Libraries
 - Museums

Level 3 Objectives



Roads Group

1. All roads passable for Fire/EMS

Pedestrian Group

1. Critical Infrastructure
 - Hydrants
 - Catch Basins
 - Roofs

Facilities Group

1. 24 hour facilities (4)
2. Other City Facilities
 - City Buildings
 - Libraries
 - Museums